

IN THE SPECIFICATION AMEND

*Subt B1*  
*at*  
*Subt B2*  
*at*

Please delete the paragraph on Page 3, Line 5, and insert instead:

-- In one embodiment, the support material comprises any one of ionomers, anion exchange membranes, cation exchange membranes, Nasicon (Ion selective ceramix membranes of the formula  $\text{Na}_{1+x}\text{Zr}_2\text{Si}_x\text{P}_{3-x}\text{O}_{12}$ , where  $X = 1,8$ ) and Nafion (Perfluorosulfonate ionomer membranes). --

Please delete the paragraph on Page 4, Line 19, and insert instead:

*Subt B1*  
*Subt B2*  
*at*

~~~ In an embodiment of the wound healing device wherein the beneficial material comprises an ion exchange material, the reactive material comprises one of the group consisting of: ionomers, anion exchange membranes, cation exchange membranes, Nasicon (Ion selective ceramix membranes of the formula  $\text{Na}_{1+x}\text{Zr}_2\text{Si}_x\text{P}_{3-x}\text{O}_{12}$ , where  $X = 1,8$ ) and Nafion (Perfluorosulfonate ionomer membranes) and the reactive material comprises one of the group consisting of: noble metals, metals, halogens and photoactive compounds comprising combinations of compounds including  $\text{TiO}_2$  and Titanates,  $\text{Fe}_2\text{O}_3$  and compounds of  $\text{Fe}_2\text{O}_3$  and other oxides, Silver and Copper Oxides, halides and chalcogenides, Vanadium pentoxide and vandates, Tin oxides and stannates, Silver Ion Conductors,  $\text{NbO}_2$  and Niobates,  $\text{TiO}_2$  and  $\text{NbO}_2$  solid solutions,  $\text{Bi}_2\text{O}_3$  and bismuth chalcogenides, Silicon and Germanium doped with p-type and n-type impurities, P-N junctions of semiconductors, such as Si, ZnS, GaAs, etc., Photovoltaic materials, such as silicon, Ge, InP, ZnP, Zinc chalcogenides and Zn oxides and Zn phosphides... --~~

*Subt B3*  
*at*

Please delete the paragraph on Page 9, Line 21, and insert instead:

-- Referring again to Fig. 1, beneficial material 10 comprises support material 14 and reactive material 16. Support material 14 may comprise a variety of materials, including, but not

limited to anion exchange membranes, cation exchange membranes, Nafion (Perfluorosulfonate ionomer membrane), Nasicon (Ion selective ceramix membranes of the formula  $Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$ , where  $X = 1, 8$ ), as well as other ionomers. Reactive material 16 may comprise a variety of different materials, including, but not limited to noble metal compounds (i.e. compounds of Ag, Au, Pt, Cu, Al, Pd, Rh, Ir, Ru, among others) as well as halogens (F, Cl, I, Br) which are ion exchanged into the support material. In other embodiments, beneficial material 10 may comprise a cationic membrane (i.e. ion exchanged with a noble metal ion). Examples of the foregoing ion exchanged membranes comprise Cu-Nasicon; Cu-Nafion; Ag-Nasicon; Ag-Nafion; Au-Nasicon; Au-Nafion; I<sub>2</sub>-Anion Membranes, Br<sub>2</sub>-Anion Membranes, to name a few. --

Please delete the paragraph on Page 12, Line 10, and insert instead:

*Sub 12*  
*Sub 13*  
*Sub 14*  
- For example, relative to the embodiment of Fig. 1, beneficial material 12 may comprise Ag (reactive material 16) which has been ion exchanged into Nafion (Perfluorosulfonate ionomer membrane) (as substrate 14) to form Ag-Nafion material. In such an embodiment, the Nafion (Perfluorosulfonate ionomer membrane) substrate may be dip coated upon the device and, subsequently, the device with the coating may be placed into solution containing Ag ions for ion exchange. When protonated Nafion (Perfluorosulfonate ionomer membrane) membrane is dipped into silver nitrate solution, Ag ions in the solution ion exchange with protons in the Nafion (Perfluorosulfonate ionomer membrane), thereby rendering an Ag-Nafion membrane. --

*Sub B*

Please delete the paragraph on Page 14, Line 5, and insert instead:

*Sub B*

~~1 - To formulate the material in this example, a circular sample of Sodium Nafion (DuPont material) was first cut with a punch. The sample was then cleaned with distilled water. The Nafion (Perfluorosulfonate ionomer membrane) sample was then exposed to a 1 M  $\text{AgNO}_3$  solution at 100° C for three hours and then cooled to room temperature. As a result of the exposure, Ag was ion exchanged into the Nafion (Perfluorosulfonate ionomer membrane). The ion exchanged Nafion (Perfluorosulfonate ionomer membrane) samples were then rinsed in distilled water to wash nitrates. The silver exchanged Nafion (Perfluorosulfonate ionomer membrane) called Ag-Nafion was now in condition for testing. --~~

*Sub B*

Please delete the paragraph on Page 14, Line 13, and insert instead:

*Sub B*

~~-- To formulate the material in this example, a similar circular sample of Nafion (Perfluorosulfonate ionomer membrane) was cut with a punch, and the sample was cleaned with distilled water. The Nafion (Perfluorosulfonate ionomer membrane) sample was then exposed to a 1 M  $\text{Cu}(\text{NO}_3)_2$  solution at 100° C for three hours and then cooled to room temperature. As a result, the Cu was ion exchanged into the Nafion (Perfluorosulfonate ionomer membrane). The ion exchanged Nafion (Perfluorosulfonate ionomer membrane) samples were then rinsed in distilled water to wash nitrates. The copper exchanged Nafion (Perfluorosulfonate ionomer membrane) called Cu-Nafion was now in condition for testing. --~~

*Sub B*

Please delete the paragraph on Page 14, Line 21, and insert instead:

*Sub B*

~~-- To formulate the material in this example, a similar circular sample of Nafion (Perfluorosulfonate ionomer membrane) was cut with a punch and cleaned with distilled water. The~~

~~Nafion (Perfluorosulfonate ionomer membrane) sample was then coated with an Au/Pd coating which was sputter deposited at 60 mA current and 200 Mtorr. The coated Nafion (Perfluorosulfonate ionomer membrane) was then placed into a 0.25 M HNO<sub>3</sub> solution for three hours at 40° C. In this manner, the solution first dissolved the Au/Pd coating then the coating was ion-exchanged into the Nafion (Perfluorosulfonate ionomer membrane). The Au/Pd ion exchanged Nafion (Perfluorosulfonate ionomer membrane) was now in condition for testing.~~

~~Please delete the paragraph on Page 15, Line 7, and insert instead:~~

~~Sub B  
Sub B~~  
~~- To formulate the material in this example, a similar circular sample of Nasicon (Ion selective ceramix membranes of the formula Na<sub>1+x</sub>Zr<sub>2</sub>Si<sub>x</sub>P<sub>3-x</sub>O<sub>12</sub>, where X = 1,8) was placed in a 1M AgNO<sub>3</sub> solution at 50° C for three hours and cooled to room temperature. As a result, the Ag was ion exchanged into the Nasicon (Ion selective ceramix membranes of the formula Na<sub>1+x</sub>Zr<sub>2</sub>Si<sub>x</sub>P<sub>3-x</sub>O<sub>12</sub>, where X = 1,8). Subsequently, the ion exchanged samples were rinsed in distilled water to remove any residual nitrate material. The Ag-Nasicon was then tested for its antimicrobial properties, wherein an Ag-Nasicon pellet was formed for testing.~~

~~Please delete the paragraph on Page 15, Line 14, and insert instead:~~

~~Sub B  
Sub B~~  
~~- To formulate the material in this example, coated steel rods were prepared. Specifically, 441 stainless steel rods were chemically etched in HNO<sub>3</sub>/H<sub>3</sub>PO<sub>4</sub>/Acetic acid/H<sub>2</sub>O solution for one hour. The samples were then washed. Next, the samples were then dip coated in five separate coats of Nafion (Perfluorosulfonate ionomer) solution obtained from DuPont. Each coating was performed at 100° C. Once coated with the Nafion (Perfluorosulfonate ionomer) solution, the steel samples were placed in a 1 M AgNO<sub>3</sub> solution at 40° C for three hours. The samples were then~~

cooled to room temperature and washed in distilled water to remove any nitrates. These steel rods

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were then tested for their antimicrobial properties. - -